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EXAMINER

PEREZ, JULIO R

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 05/20/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,242

Applicant(s)

YAMAOKA, HARUYASU

Examiner

Julio R Perez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-19 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-16 is/are rejected.
- 7) ☒ Claim(s) 8,9 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

2. The indicated allowability of claims 2-3, 5-6 is withdrawn in view of the newly discovered reference(s) to Tuoriniemi et al. (5978689). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Irvin (6,029,074).

Regarding claim 16, Irvin discloses a mobile terminal (Fig. 1) comprising: VOX controller (Control and signaling unit, (12)) means for reducing a power to a part of a transmitter (col. 4, lines 6-9; col. 3, lines 29-32; col. 4, lines 48-51); operation controller (Control and signaling unit, (12)) means for controlling operation (the terminal radio possesses a power control unit, which limits the transmit power of the mobile terminal) of the VOX controller means; storage means for storing a plurality of thresholds corresponding to a plurality of usage conditions (Fig. 1, ref. 14; col. 3, lines 18-26; col.

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3, lines 59-62; col. 3, lines 12-22; the memory (14) stores programs used by the mobile terminal (10), and transmit power levels, hence thresholds); and usage condition detector means for determining in which one of the plurality of usage conditions the terminal is shifted in (col. 3, lines 18-20; col.3, lines 52-54; col. 5, lines 33-56, the terminal determines whether the unit is operating in a hand-held mode or inserted into a cradle in a vehicle or connected to a docking station); wherein the operation controller means is constructed to select one of the thresholds in correspondence with a detection result by the usage condition detector means and to operate the VOX controller means in accordance with the selected threshold (col. 5, lines 13-56); the VOX controller means is constructed to compare at least one physical quantity of a plurality of physical quantities each having a different unit system as the physical quantity in relation to the voice transmission with a threshold (col. 5, lines 38-44, a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47, the system controls at least one condition; for instance, capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system); the operation controller means is constructed to select at least one threshold having one unit to operate the VOX controller means in accordance with the selected at least one threshold, when the usage condition detector means determines one of the usage conditions (col. 5, lines 38-44, the system controls at least one condition; a mechanical key provides indication

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of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system); and the operation controller means selects at least one of thresholds having another unit different from the one unit to operate the VOX controller means in accordance with at least the selected other threshold, when the usage condition detector means determines another usage condition different from the one of usage conditions (col. 5, lines 38-44, the system controls at least one condition; a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irvin (6029074) in view of Watanabe et al. (6490257).

Regarding claim 1, Irvin discloses a mobile terminal (Fig. 1) comprising: VOX controller (Control and signaling unit, (12)) means for reducing a power to a part of a transmitter (col. 4, lines 6-9; col. 3, lines 29-32; col. 4, lines 48-51); storage means for storing a plurality of thresholds corresponding to a plurality of usage conditions (Fig. 1, ref. 14; col. 3, lines 18-26; col. 3, lines 59-62; col. 3, lines 12-22; the memory (14) stores programs used by the mobile terminal (10), and transmit power levels, hence thresholds); and usage condition detector means for determining in which one of the plurality of usage conditions the terminal is shifted in (col. 3, lines 18-20; col.3, lines 52-54; col. 5, lines 33-56, the terminal determines whether the unit is operating in a hand-held mode or inserted into a cradle in a vehicle or connected to a docking station).

Irvin does not explicitly disclose the operation controller means for controlling operation of the VOX controller means in accordance with the voice input from a user or the terminal wherein the operation controller means is constructed to select one of the thresholds in correspondence with a detection result by the usage condition detector means and to operate the VOX controller means in by comparing the voice input with the selected threshold.

However, the preceding limitations are known in the art of telecommunications.

Watanabe et al. teach a mobile station with VOX control capabilities to control the VOX function transmission and to control the VOX control when detecting whether there is a condition of presence or absence of voice or data input (col. 3, lines 37-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to improve the handheld apparatus as taught by Irvin by implementing it with a VOX technical functionality as taught by Watanabe et al. because it would provide the handheld device with capabilities to effectively detect voice sounds during transmission or reception in order to contribute to power saving.

Regarding claims 11 and 12, Irvin discloses a method of controlling a mobile terminal having a handset microphone and connectable to an external microphone (col. 3, lines 52-54), the method comprising the steps of: detecting which one of the microphones is in use (handheld or hands-free, handheld in cradle; col. 3, lines 17- 26); (Irvin further discloses a power control logic, which verifies a status of the power-inhibit flag to indicate whether the terminal is operating as a hand-held (handset microphone) or as a captured device (col. 5, lines 22-47); that is, if the power inhibit flag (threshold) is set to zero, which indicates capture of the terminal by a docking station or cradle, the power control logic adjusts RF power according to the threshold. Conversely, if the power-inhibit flag is set to one, which indicates hand-held use, the MAC (threshold or power level) is revised from 000 (=2dBW) to 010 (=-2dBW), and the power control logic adjusts the power accordingly (col. 5, lines 26-32).

However, Watanabe et al. disclose mobile stations (terminals or mobile stations) equipped with a VOX (Voice Operated Transmission) function by which transmission is turned ON/OFF according to the presence/absence of transmission data during a communication for saving power (col. 3, lines 42-45; col. 3, lines 64-67 and col.7, lines 1-9). Therefore, it would have been obvious to one with ordinary skill in the art at the

time of the invention was made to modify Irvin's mobile terminal as to include a VOX (Voice Operated Transmission), which carries out transmissions ONLY when there is voice to be transmitted and turns off transmission when there is no voice to be transmitted, contributing, consequently, to power saving.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Irvin (6029074) in view of Watanabe et al. (6490257) further in view of Tuoriniemi et al. (5978689).

Regarding claim 2, Irvin and Watanabe et al. disclose the usage condition detector means is constructed to detect a handset usage condition for processing the voice input from a handset microphone for a voice transmission, a hands-free microphone usage condition for processing the voice input from a hands-free microphone for the voice transmission.

Irvin and Watanabe et al. do not specifically disclose an earphone usage condition for processing the voice input from a headset microphone for the voice transmission.

However, the previous limitation is well known in the art of telecommunications.

Tuoriniemi et al. teach a headset with microphone (col. 4, lines 9-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Irvin and Watanabe et al. to add a headset or earphone, thus having extra means of audio facilities.

Regarding claim 3, Irvin teaches the mobile terminal, wherein: the usage condition detector means is constructed to automatically check whether the hands-free

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microphone and the headset microphone are in use thereby to determine in which usage condition of the handset usage, the hands-free microphone usage, and the headset microphone usage the mobile terminal is shifted (col. 5, lines 38-44, a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system).

Regarding claim 4, Irvin discloses the mobile terminal, wherein: the usage condition detector means is constructed to check whether the hands-free microphone is connected and the handset is placed on a cradle thereby to determine the terminal is shifted in the hands-free microphone usage condition (col. 5, lines 38-44, a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system).

Regarding claim 5, Irvin discloses the mobile terminal, wherein: the VOX controller means is constructed to compare at least one physical quantity of a plurality of physical quantities each having a different unit system as the physical quantity in

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relation to the voice transmission with a threshold (col. 5, lines 38-44, a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47, the system controls at least one condition; for instance, capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system); the operation controller means is constructed to select at least one threshold having one unit to operate the VOX controller means in accordance with the selected at least one threshold, when the usage condition detector means determines one of the usage conditions (col. 5, lines 38-44, the system controls at least one condition; a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system); and the operation controller means selects at least one of thresholds having another unit different from the one unit to operate the VOX controller means in accordance with at least the selected other threshold, when the usage condition detector means determines another usage condition different from the one of usage conditions (col. 5, lines 38-44, the system controls at least one condition; a mechanical key provides indication of the mobile terminal being secured or captured by the docking

station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system).

Regarding claim 6, Irvin discloses he mobile terminal according to claim 5, wherein: the VOX controller means is constructed to compare with a threshold at least one of a power of voice transmission and a frequency component of voice transmission used as the physical quantity in relation to the voice transmission; the operation controller means is constructed to select a threshold in relation to the power of voice transmission and a threshold in relation to the frequency component of voice transmission and use the threshold selected for the power of voice transmission and the threshold selected for the frequency component of voice transmission to operate the VOX controller means, when the usage condition detector means determines either one of the handset usage condition or the headset microphone usage condition; and the operation controller means is constructed to select a threshold in relation to the power of voice transmission and uses the threshold selected for the power of voice transmission to operate the VOX controller means, when the usage condition detector means determines the hands-free microphone usage condition.

Regarding claim 7, Irvin discloses a mobile terminal, wherein: the storage means further stores a plurality of thresholds each different from one another, which has the same unit for the same usage condition (Fig. 1, ref. 14, the program memory stores

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programs used by the terminal: the mobile has power class rating levels (thresholds), which allow the terminal to limit its transmit power when the unit is operated in a hand-held mode or as hands-free; hence, the power control logic verifies the status of the power-inhibit flag = 0 or flag = 1, which indicate the terminal is either used or operated as a hand-held or as a captured device respectively: both flags are power levels in the mobile terminal, and they correspond to power levels 000 = 2 dBW (or 1.58 Watts), and both belonging to Class-2RF power levels and with the same unit (dBW) for the same condition).

Regarding claim 10, Irvin discloses the mobile terminal (Fig. 1), wherein: the operation controller means is constructed to select a threshold corresponding to a predetermined manual entry of operating keypad (18) means from a plurality of thresholds (power caps A, B, and C, these corresponding to thresholds) stored in the storage means and use thus selected threshold to operate the VOX controller means (col. 5, lines 57-67; col. 6, lines 1-5; col. 6, lines 6-26, the terminal can be operated in a hand-held mode to limit or adjust its transmit power: the terminal's power is capped by limiting the MAC to 101; that is, -14 dBW or approximately 0.040 Watts, minimum power consumption; for explanation of the process taken for the operation controller to get into a power saving mode).

8. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irvin (6029074) in view of Tuoriniemi et al. (5978689).

Regarding claim 13, Irvin discloses a mobile terminal (Fig. 1) comprising: VOX controller (Control and signaling unit, (12)) means for stopping feeding power (col. 4,

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lines 6-9; col. 3, lines 29-32; col. 4, lines 48-51) to a part of a transmitter (26) or for saving the power to be supplied; operation controller (Control and signaling unit, (12)) means for controlling operation (the terminal radio possesses a power control unit, which limits the transmit power of the mobile terminal) of the VOX controller means; storage (Fig. 1, ref. 14) means for storing a plurality of thresholds (the memory (14) stores programs used by the mobile terminal (10), (col. 3, lines 59-62) and transmit power levels, hence thresholds, (col. 3, lines 12-22)) corresponding to a plurality of usage conditions (col. 3, lines 18-26); and usage condition detector means for determining in which one of the plurality of usage conditions the terminal is shifted in (the terminal determines whether the unit is operating in a hand-held mode or inserted into a cradle in a vehicle or connected to a docking station; col. 3, lines 18-20, col.3, lines 52-54 and col. 5, lines 33-56), wherein the operation controller means is constructed to select one of the thresholds in correspondence with a detection result by the usage condition detector means and to operate the VOX controller means in accordance with the selected threshold (col. 5, lines 13-56); and the usage condition detector means is constructed to detect a handset usage condition for processing the voice input from a handset microphone for a voice transmission, a hands-free microphone usage condition for processing the voice input from a hands-free microphone for the voice transmission (Fig. 1, ref. 14, the program memory stores programs used by the terminal: the mobile has power class rating levels (thresholds), which allow the terminal to limit its transmit power when the unit is operated in a hand-held mode or as hands-free; hence, the power control logic verifies the status of the

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power-inhibit flag = 0 or flag = 1, which indicate the terminal is either used or operated as a hand-held or as a captured device respectively: both flags are power levels in the mobile terminal, and they correspond to power levels 000 = 2 dBW (or 1.58 Watts), and both belonging to Class-2RF power levels and with the same unit (dBW) for the same condition).

Irvin does not specifically disclose an earphone usage condition for processing the voice input from a headset microphone for the voice transmission.

However, the previous limitation is well known in the art of telecommunications.

Tuoriniemi et al. teach a headset with microphone (col. 4, lines 9-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Irvin to add a headset or earphone, thus having extra means of audio facilities.

Regarding claim 14, Irvin teaches the mobile terminal, wherein: the usage condition detector means is constructed to automatically check whether the hands-free microphone and the headset microphone are in use thereby to determine in which usage condition of the handset usage, the hands-free microphone usage, and the headset microphone usage the mobile terminal is shifted (col. 5, lines 38-44, a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the

presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system).

Regarding claim 15, Irvin teaches Irvin discloses the mobile terminal, wherein: the usage condition detector means is constructed to check whether the hands-free microphone is connected and the handset is placed on a cradle thereby to determine the terminal is shifted in the hands-free microphone usage condition (col. 5, lines 38-44, a mechanical key provides indication of the mobile terminal being secured or captured by the docking station or cradle; hand-held status is indicated by the absence of any signal that the terminal has been captured by the cradle; col. 3, lines 22-25; col. 5, lines 33-36, 45-47 capture by a vehicle's hands-free cradle, user condition, is indicated, in the presence of a docking station (flag = 0), by a data-communications clear-to-send signal on the terminal's system).

Allowable Subject Matter

9. Claims 18-19 are allowed.

Independent claim 18 contains subject matter noted as allowable in the previous office action.

10. Claims 8, 9 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claims 8, 9, and 17, the Applicant specifically teaches the storage of a plurality of bandwidth and frequency components conditions corresponding to the

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plurality of usage conditions; and the operation controller means is constructed to select one of other bandwidth conditions each having a predetermined frequency bandwidth different from the one predetermined frequency bandwidth and use the bandwidth condition thus selected to operate the VOX controller means, when the usage condition detector means determines one of other usage conditions different from the one usage condition. This limitation, in conjunction with all limitations of the independent claims, has not been taught or made obvious over the prior art of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R Perez whose telephone number is (703) 305-8637. The examiner can normally be reached on Monday - Friday, 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Erika Gary can be reached on (703) 308-0123. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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5/17/04


ERIKA GARY
PATENT EXAMINER